

**WORKING DRAFT DOCUMENT  
INFORMATION SHEET**

**I. REGULATORY BACKGROUND**

The California Regional Water Quality Control Board, Central Valley Region (Water Board) adopts this Monitoring and Reporting Program (Order) pursuant to California Water Code (Water Code) Sections 13267 and 13269.

This Order is developed to conform to the “*Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program*,” May 2004 (NPS Policy). The NPS Policy identifies five key elements that must be utilized by NPS implementation program as follows:

ELEMENT 1: An NPS control implementation program’s ultimate purpose shall be explicitly stated. Implementation programs must, at a minimum, address NPS pollution in a manner that achieves and maintains water quality objectives and beneficial uses, including any applicable anti-degradation requirements.

ELEMENT 2: An NPS control implementation program shall include a description of the MPs and other program elements that are expected to be implemented to ensure attainment of the implementation program’s stated purpose(s), the process to be used to select or develop MPs, and the process to be used to ensure and verify proper MP implementation.

ELEMENT 3: Where a RWQCB determines it is necessary to allow time to achieve water quality requirements, the NPS control implementation program shall include a specific time schedule, and corresponding quantifiable milestones designed to measure progress toward reaching the specified requirements.

ELEMENT 4: An NPS control implementation program shall include sufficient feedback mechanisms so that the RWQCB, dischargers, and the public can determine whether the program is achieving its stated purposes(s) or whether additional or different MPs or other actions are required.

ELEMENT 5: Each RWQCB shall make clear, in advance, the potential consequences for failure to achieve an NPS control implementation program’s stated purposes.

## **II. IRRIGATED LANDS PROGRAM (ILP) OBJECTIVES**

The ILP objectives focus on meeting the terms and conditions of the Coalition Group Conditional Waiver. These ILP objectives are generally common to all non point source programs and include the following:

1. To assess the effects of irrigated agriculture on water quality and associated beneficial uses for all waters of the State;
2. To determine where and what management practices are being implemented to reduce discharge of specific wastes that degrade water quality in watersheds, sub-watersheds, or drainage areas where water quality problems have been identified through monitoring;
3. To determine the effectiveness of management practices and strategies that are put in place to reduce discharges of wastes that degrade water quality and use the resulting information to expand the implementation of management practices and strategies shown to reduce discharges of wastes that degrade water quality;
4. To provide effectiveness guidance to Coalitions that will use the information to expand the implementation of management practices and strategies shown to reduce discharges of wastes that degrade quality;
5. To determine the magnitude of waste discharged to waters of the State through concentration, flow and load information;
6. To evaluate the presence of cumulative impacts from multiple stressors that may result in water or sediment toxicity;
7. To evaluate compliance with water quality standards and to determine if implementation of additional management practices is necessary to improve and/or protect water quality.

There are five management questions identified in the MRP Order No. R5-2007-\_\_\_\_\_ that will assist Coalitions in producing information to help achieve many of these objectives. The MRP Plan and its associated Long Term monitoring Strategy shall be designed to address the five management questions identified on page 2 of the MRP. The Long Term Monitoring Strategy shall describe the tasks and time schedule in which the management questions will be addressed. The Water Board recognizes that a Coalition Group may not be able to address these at one time given the complexity of agricultural discharges to surface waters and identification of sources, the ability to assess effective management practices and other issues.

The submittal of an acceptable MRP Plan that meets the requirements of this Order is a condition of the Coalition Group Conditional Waiver. The Coalition-specific MRP Plans will be reviewed by Central Valley Water Board Staff to determine if it meets or exceeds the minimum requirements of this Order, and must be approved by the Executive Officer. If changes to the MRP Plans are deemed necessary by Staff, the Coalitions will be notified and a schedule for providing those changes will be designated by Staff. In the event that agreement cannot be reached regarding the ability of the Coalition Group

MRP Plan to meet the objectives of this Order, the Executive Officer will prescribe MRP Plan requirements to the Coalition Group with a deadline to fully implement the Plan.

### **III. MONITORING AND REPORTING ORDER NO. R5-2007- \_\_\_\_\_ STRUCTURE**

The development of a science-based water quality monitoring program is critical to determine actual and potential effects on water quality of waste discharges from irrigated lands and on beneficial uses of water in the Central Valley Region.

Determining the existing ecological conditions of agriculturally dominated water bodies is a critical goal of a water quality monitoring program and should be achieved by multiple assessment tools such as toxicity, chemical monitoring, and bioassessment, as necessary. The MRP Plan is a part of the Central Valley Water Board Program to assess the effects on water quality of these discharges on waters of the State, as well as to evaluate the efficacy of management practices that are being implemented.

The MRP Order NO. R5-2007- \_\_\_\_\_ is divided into three parts, as described below:

MRP Part I. Components of a Coalition-specific MRP Plan - The Coalition Group shall submit to the CVRWQCB a detailed MRP Plan that goes through the steps to answer the key MRP management questions described in this Order, and that demonstrates the Coalition's ability to comply with conditions of the Irrigated Lands Program (ILP) Conditional Waiver, applicable TMDLs and Basin Plan requirements. Required components for a Coalition MRP Plan, including sample site selection and submittal of all information are described in Part I of this Order.

Coalitions may develop an MRP Plan approach that differs from the approach described in this Order with respect to monitoring parameters, monitoring frequency, and follow-up to exceedances, providing that certain conditions are met as described below:

Variations in a Coalition-specific MRP Plan must:

- Be designed to answer the six management questions described in this Order;
- Provide valid, scientific rationale for variations in monitoring parameters, frequency or follow-up to exceedances;
- Receive approval for specific variations from the minimum requirements of the MRP Order by the Executive Officer of the CVRWQCB (Executive Officer).
- Demonstrate the Coalition's ability to comply with conditions of the ILP Conditional Waiver, applicable TMDLs and Basin Plan requirements.

MRP Part II. Monitoring Parameters and Schedule. Monitoring data must be collected by the Coalition Group in a format that provides a complete assessment of the conditions of waters of the State within the Coalition Group boundaries, and that provides an evaluation of trends in conditions over time. Special projects will be

necessary to address TMDL water bodies, and Management Plan requirements. All data must be generated in accordance with a Quality Assurance Program Plan (QAPP), which must be included as part of the Coalition's MRP Plan. The Coalitions' Monitoring Schedule and identified Monitoring Parameters shall include all elements of the schedule and contaminant list that is described in Part II of this Order.

#### MRP Part III. Reporting Requirements

In addition to the initial Watershed Evaluation Report (WER) and the Coalition's MRP Plan, routine reports must include the Quarterly Data Reports and the Annual Monitoring Reports (AMRs) as described in Part III of the Order. Components of the AMR shall include an update on management practices, and current chemical use reports. Exceedance Reports are required any time an exceedance occurs and Management Plans are required when one or more exceedance of water quality standards occur within a three-year period.

#### **IV. MONITORING AND REPORTING PROGRAM DESIGN**

The design of the MRP includes a Long Term Monitoring Strategy made up of Assessment Monitoring, Core Monitoring for tracking of trends, and Special Project Monitoring components. This monitoring design reflects an approach that will help address the Irrigated Lands Program objectives.

The assessment monitoring is a key component of the Long Term Monitoring Strategy and shall consist of a more comprehensive suite of analyses including water column toxicity, pesticides and metals that will be used to assess the effects of irrigated agriculture on waters of the State within Coalition boundaries.

**Assessment monitoring** shall be used to obtain a comprehensive characterization and evaluation of water quality conditions within the Coalition Group boundaries. Sites shall be selected to represent varying sizes and flows of water bodies and land uses (e.g., agricultural activities, crops and pesticide use), focusing on diversity across the watershed, and must include water bodies that carry or directly or indirectly receive agricultural drainage into natural water bodies. Assessment Monitoring will include toxicity analyses in water column and in sediment in order to provide information about the cumulative effects of multiple stressors on water column and sediment biota. Toxicity data also allows for water quality information regarding the effects of new-use chemicals or other contaminants that may not be included in the Coalitions' Core monitoring program.

Assessment monitoring shall be used to provide supporting data for sites that Coalitions wish to select as Core monitoring sites. Supporting data may also allow consideration for the use of some monitoring sites as being representative of other locations throughout the Coalition boundaries. In order to be considered 'representative',

Coalitions must provide technically valid justification for the representative nature of the monitoring locations to include similarities in hydrology, crop types, pesticide use, etc. This 'representativeness' must also be supported by data from at least one full year of Assessment Monitoring. Coalitions must provide this technical justification and identify which sites are to be considered to be representative of other designated sites in the MRP Plan, or in a subsequent technical report, that must be approved by the Executive Officer. When representative sites are approved, the monitoring data collected through the Core and Assessment monitoring shall be considered to 'represent' conditions at the referenced designated sites. Similarly, when action must be taken based on exceedances at the representative sites such as management practice implementation, the same action(s) shall be taken throughout the irrigated lands that are represented and contribute to the identified designated locations.

**Core monitoring sites** shall be selected from Assessment Monitoring locations and be used to track trends at selected representative sites over extended periods of time. Core monitoring shall occur at fixed stations and must include a repetition of the Assessment Monitoring analytical regime at a minimum of every three years. The purpose of periodically repeating Assessment Monitoring is to evaluate changes in land-use practices and provide information about long-term trends and effectiveness of the Monitoring and Reporting Program. Core monitoring shall not be limited to largest volume water bodies that would dilute contaminants that may be in higher concentrations in tributary streams and drainages. Central Valley Water Board will also indicate additional Core Monitoring parameters should a particularly pesticide, metal or toxicity test exhibit an exceedance of standards during the first year of Assessment monitoring. Should this occur, continued monitoring of that parameter(s) through the Core Monitoring cycles may be necessary in order to interpret whether or not there would be an exceedance of more than one parameter within a three year period. Exceedances of standards more than once during a three year period triggers a Management Plan, pursuant to recent Central Valley Water Board action.

Bioassessment monitoring protocols are at the developing stage and there are no Basin Plan requirements or biocriteria to evaluate the results of bioassessment monitoring at this time. Coalition Groups are encouraged to conduct bioassessments to collect data that may be used as reference sites and to provide information for scientific and policy decision-making in the future. Bioassessments may serve Coalitions' monitoring needs through three primary functions: 1) screening or initial assessment of conditions; 2) characterization of impairment and diagnosis; and 3) trend monitoring to evaluate improvements through the implementation of management practices. Bioassessment data from all Wadeable Impaired Water Bodies may serve as a benchmark for measuring existing conditions and could provide evidence for the success of management practices. Bioassessment monitoring shall not be done at the expense of required MRP Plan Assessment Monitoring.

**Special Project Monitoring** which will include monitoring for implementation of a TMDL will also provide the mechanism for Coalitions to implement Management Plans under Amended Order No. R5-2006-0053 is required when more than one exceedance occurs within a three-year period. This MRP Order not only identifies the required components of a Management Plan, but also identifies the type of contaminant for which a Management Plan should be developed by the Coalition. For example, unless specifically requested by the Executive Officer, an automatic Management Plan would not be required for physical parameters in Table II.D. Although, there may be circumstances in which the Executive Officer will require a written Management Plan for any exceedance.

Special Project Monitoring via a Management Plan also provides relief from follow-up monitoring within 5 days of every exceedance, as well as the submittal of Evaluation and Compliance Reports required under MRP Order No. R5-2005-0833.

Although monitoring frequency can be reduced and tailored by technical rationale specific to the exceedance parameter, accountability for management practice implementation and periodic effectiveness monitoring are significant aspects of the Special Project Monitoring and must be addressed in detail.

## **V. MRP ORDER DEVELOPMENT BACKGROUND**

### **2003 MRP**

On 11 July 2003, the Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) adopted Resolution No. R5-2003-0105, *Conditional Waivers of Waste Discharge Requirements for Discharges From Irrigated Lands Within the Central Valley Region* (Conditional Waivers) and associated Monitoring and Reporting Programs (MRPs). In August 2003, six agricultural interests and one environmental interest submitted petitions to the State Water Resources Control Board (State Water Board) regarding the Conditional Waivers and MRPs. On 22 January 2004, the State Water Board adopted Order WQO 2004-0003, which upheld the Conditional Waivers and MRPs with minor revisions. The Conditional Waivers expired on 31 December 2005.

In April 2005, staff began outreach efforts by holding meetings and public workshops and participating in site tours to obtain feedback on how the Program has worked and what modifications should be considered. Staff evaluated this feedback; the analytical results from the Phase I and II UC Davis sampling and the monitoring conducted by Coalition Groups, Individual Dischargers, and Water Districts; the Irrigated Lands Programs in other Regions; and the State Water Board's Non Point Source Policy in an effort to improve the Conditional Waivers and MRPs.

### **2005 Tentative MRP**

On 5 October 2005, staff circulated for a 30-day public comment period Tentative Renewal Documents consisting of Orders, Attachment A and Attachment B for Coalition

Groups and Individual Dischargers and 3 MRPs for Coalition Groups, Individual Dischargers, and Water Districts enrolled as Individual Dischargers.

The comment period ended on 4 November 2005, and based on the comments received by the Board and the complexity of the issues related to the Conditional Waivers, stakeholders and staff agreed to take the proposed MRPs to the Technical Issues Committee to discuss resolution of outstanding issues and develop the framework for the revised MRPs.

### **Technical Issues Committee**

The ILP Technical Issues Committee (TIC) brings together Coalition representatives, consultants, and other stakeholders who have an interest in the Coalition Group MRP. The experiences and expertise of these people are being utilized in the MRP revision process. Monthly TIC meetings and multiple TIC Focus Group meetings have been held since December 2005 to consider technical issues, develop options, and make recommendations to Regional Board staff to consider for the revised Coalition Group MRP. Since February 2006, the meetings were facilitated by the Center for Collaborative Policy (CCP).

TIC efforts resulted in 15 recommendations to Regional Board staff. Staff, in turn, provided feedback to the TIC regarding these recommendations at the 12 December 2006 meeting. As a result of the feedback, TIC members have elected to reconsider some of the recommendations for possible modification before the 13 February 2007 TIC meeting. The Central Valley Water Board staff is very appreciative of all of the effort that several members of the TIC have dedicated to this process.

### **Stakeholder MRP Discussions**

ILP staff have scheduled and publicly-noticed a number of stakeholder meetings in January, February and March 2007 to discuss non-technical aspects of the Coalition Group and Individual Discharger MRPs. The first five meetings were held on 9 and 23 January, 6 and 20 February, and 8 March of 2007 in the Water Board office in Rancho Cordova. All meetings were well attended. These meetings are designed to provide opportunity for stakeholders to express their concerns with the existing MRPs and provide solutions or alternatives that would make the monitoring and reporting process more effective and efficient. These meetings also allow ILP staff to provide direct feedback and discussion on various issues to the stakeholder before the Tentative Coalition Group and Individual Discharger MRPs are finalized.

Through both the TIC and the Stakeholder meetings, Staff maintained the goal of developing an MRP that would provide consistency throughout the Central Valley Irrigated Lands Program, while also directly addressing key questions in a scientifically sound and cost-effective manner.

## **VI. TIC PROCESS FOR DEVELOPING RECOMMENDATIONS**

A specific protocol for reviewing and adopting the TIC recommendations was developed by the TIC members. First, recommendations were developed by one of the three focus groups: Toxicity Triggers Focus Group, Sediment Toxicity Focus Group, or Lab Round Table Focus Group. Focus group members collaborated to develop background information and a justification for each recommendation, as well as the specific recommendation language. Second, upon completion each recommendation was presented at a TIC meeting. During the meeting, TIC members provided comment, asked questions and stated any disagreement they may have with a recommendation. Third, if no changes or only very minor changes were needed in a recommendation, it was to be brought forth at the next TIC meeting for final consensus by the TIC. If a recommendation needed significant revision based on TIC member comments, it was revised and presented again at the next TIC meeting for further discussion and comment. This process was repeated as many times as needed. Lastly, when consensus was reached, each recommendation was forwarded to Central Valley Water Board staff for review and comment.

The TIC initially developed a list of technical topics that it proposed to address, and established TIC Focus Groups to develop recommendations on the specific topics. Over the course of 13 months, 15 different recommendations were proposed, adopted by the TIC and forwarded to CVRWQCB staff as recommendations.

The recommendations by the TIC have been taken into consideration, and in many instances utilized fully, in the development of the MRP Order. For this reason, the Order is intended to improve each Coalition Group's ability to achieve the ILP goals and to build appropriate linkages between the monitoring activities and answers to the six management questions identified in the MRP.

Some of the TIC recommendations had to do with providing the opportunity for Coalition Groups to propose Coalition-specific approaches to monitoring, pending approval by the Executive Officer of scientifically valid alternatives. Based on the TIC recommendations, the MRP Order continues to allow for Coalition-specific approaches to monitoring.

## **VII. OTHER CHANGES IN MRP MINIMUM MONITORING REQUIREMENTS**

A. Central Valley Water Board staff made changes to the October 2005 Tentative MRP table which lists the minimum monitoring requirements in addition to those recommended by the TIC. These changes are as follows:

- Pyrethroids in water, which were removed due to the hydrophobic nature of the pesticides. Their detection is much greater in the sediment. Sufficient sediment will be collected when the sediment toxicity tests are processed, so that



pyrethroids can be analyzed if the sediments indicate the presence of toxicity. Water column monitoring for pyrethroids has been conducted and are detected relatively infrequently.

- Pyrethroids in sediment will be tested only when tests indicate the presence of significant toxicity. Sufficient sample volume will be collected during toxicity sample collection to allow for pesticide analyses if necessary.
- TOC in sediment was added in order to provide more complete information to evaluate sediment toxicity.
- Monitoring for Color was required under MRP Order RB5-2003-0833 was moved required in existing MRP) due to the fact that more applicable measurements are Total Suspended Sediments, and turbidity.
- Fenproprathin (a pyrethroid) was added to the sediment monitoring, which should be conducted following sediment toxicity. This is a TIC recommendation, and it was based on the premise that fenproprathin is a commonly used agriculture pyrethroid.
- Molybdenum was added because it is often added as a soil enhancement for alfalfa and melons, and some of the water bodies in the Central Valley are CWA 303(d) listed for molybdenum.
- Unionized ammonia was added to the MRP list because the Tulare Lake Basin does have a numeric limit for unionized ammonia and not total ammonia. This does not constitute an additional analysis, as it is calculated from total ammonia using pH, temperature and hardness. All of those parameters are already on the monitoring list.
- The importance of pathogen monitoring in waterbodies receiving agriculture discharges has been emphasized over the past year for various reasons. A number of Water Board programs and the Coalition Groups have been collecting pathogen indicator water quality data. The results of this information have identified pathogens as an emerging water quality issue in many water bodies of the Central Valley. For this reason, it is critical to continue to monitor for indicator bacteriological parameters. This Order includes minimum monitoring requirements for both *e-coli* and fecal coliform.
- Photo-monitoring was added to the monitoring requirements, because it provides valuable information to validate the coalitions' discussions regarding monitoring site conditions. This was a component of several of the TIC recommendations.

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B. In order to ensure that laboratory data reporting achieves optimum consistency throughout the Central Valley Region, several data quality specifics (referred to as laboratory data quality objectives, or DQOs) are stipulated in the QAPP of this Order. Included in these DQOs are laboratory reporting limits, such as PQLs, MDLs, etc. In order to identify the appropriate laboratory reporting limits to be used for the Conditional Waiver Program, Staff conducted several steps, the results of which identified specific method detection limits (MDLs) and practical quantitation levels (PQLs), which are listed in the QAPP of this Order. These steps are as follows:

- Review of quantitation levels that were being reported by laboratories for Coalition and Individual Discharger monitoring.
- Evaluation of quantitation levels necessary to comply with Basin Plan Standards.
- Survey of a larger pool of laboratories to determine what can be reasonably achieved.
- Decision-making when the existing commercial laboratory levels are higher than water quality standards. Decision-making also includes the feasibility of commercial laboratories to develop the capabilities to achieve the needed detection levels.
- Development of the tabulated list of minimum monitoring requirements with reporting limit requirements, included in the QAPP of this Order.